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ANALYSIS  
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PIR

PHOTOGRAPHIC INTELLIGENCE REPORT

~~TOP SECRET~~  
ANALYSIS OF BOMB DAMAGE TO SELECTED  
CIVILIAN RELATED AREAS IN NORTH VIETNAM

Declass Review by NIMA/ DOD

CIA/PIR 67126

DATE NOVEMBER 65

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ANALYSIS OF BOMB DAMAGE TO SELECTED CIVILIAN RELATED AREAS IN NORTH VIETNAM

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## CIA IMAGERY ANALYSIS DIVISION

## ANALYSIS OF BOMB DAMAGE TO SELECTED CIVILIAN RELATED AREAS IN NORTH VIETNAM.

This report includes the bomb damage assessment of selected civilian related areas that were struck as a result of the bombings of North Vietnam's military areas and transportation networks. Three urban complexes and fourteen rural areas were studied to determine the extent of damage to civilian housing, industry and civilian related areas but not to include JCS targets and other targeted areas. The percentage of damage sustained at each complex was computed using total roof areas in the urban complexes, and total building count in the case of rural areas.

## URBAN COMPLEXES

- a. Thanh Hoa Complex (19 48 30N-105 46 30E) (UTM coordinates WG813902) no bomb damage was observed on available aerial photography of the civilian related areas at or within a one nautical mile radius of Thanh Hoa. However, small rural areas in the Thanh Hoa vicinity have sustained bomb damage.
- b. Nam Dinh Complex (20 25 30N-106 11 00E) (UTM coordinates XH230590) this complex has sustained bomb damage due to strikes on its POL Storage Area (JCS #51.12), its Thermal Power Plant (JCS #82.15), and its rail yard. Excluding the Nam Dinh Textile Mill the buildings destroyed or damaged amounted to 1.5% of Nam Dinh's area. The number of buildings inflicted include 139 destroyed and 35 damaged. The textile mill, including both production and support buildings, has sustained damage to 4.6% of its total roof area. Figure No. 1.
- c. Yen Bai Complex (21 42 15N-104 53 04E) (UTM coordinates VJ880990). Available aerial photography reveals that 21.5% of the total civilian related buildings were destroyed or damaged. This includes 400 destroyed buildings and approximately 50 damaged buildings. Figure No. 2.

## RURAL AREAS

- a. Seven civilian related areas in the vicinity of Thanh Hoa have sustained damage as a result of strikes on the Thanh Hoa Bridge, Thermal Power Plant, Army Barracks South, Army Barracks Southeast, the Sam Son Army Barracks West, and the Ham Rong Port Facilities East and West. All villages within a one nautical mile radius of the above targets were studied for bomb damage assessment.

1. Yen Vuc Thuong at WG837940 has sustained damage to less than 1.0% of its civilian buildings including 6 buildings destroyed and 2 buildings gutted. Figure No. 3
2. Nghia Son at WG840936 has sustained damage to 70.0% of its civilian buildings including 59 buildings destroyed and 15 buildings gutted. Figure No. 3.

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3. Tho Phuong at WG831935 has sustained damage to 100.0% of its civilian buildings including 24 buildings destroyed and 14 buildings damaged. Figure No. 3.
  4. An unnamed village at WG826937 has sustained damage to 41.0% of its civilian buildings including 10 buildings destroyed. Figure No. 3.
  5. Hoa Chung at WG912838 has sustained damage to 1.2% of its civilian buildings including one building destroyed. Figure No. 4.
  6. Thung Thon at WG891580 has sustained damage to less than 1.0% of its civilian buildings including 8 buildings destroyed. Figure No. 4.
  7. Kieu Dai at WG819877 has sustained damage to 8.8% of its civilian buildings including 6 buildings destroyed and one building damaged. Figure No. 5.
- b. Vinh Son Area (WF316892) included in this area are the villages of Phu Thuy (WF324894), Phuc Thuy (WF330898), Phu Nhuan (WF313898), Dang Lam (WF314905), Cam Ngoc (WF324905) and Truong Thinh (WF318914). This area has sustained damage to 7.2% of its civilian buildings including 77 buildings destroyed and 42 buildings damaged.
- c. Phu Qui (WG455350) has sustained damage to less than 1.0% of its civilian buildings including 4 buildings destroyed, one building 50% damaged and one building 20% damaged. A complete study of the Phu Qui area was not possible due to the destruction of the film from 2 post strike missions. Figure No. 6.
- d. Thach Ha located adjacent to the Ha Tinh Highway Bridge at WF970255 has sustained damage to 12.3% of its civilian buildings including 9 buildings destroyed and 4 buildings superficially damaged. Figure No. 7.
- e. Unnamed village located adjacent to the Xom Gia Highway Bridge at WF853364 has sustained damage to 81.8% of its civilian buildings including 3 buildings destroyed and 7 buildings damaged. Figure No. 8.
- f. Xom Thai Xa Area (WF648645) has sustained damage to 75.0% of its civilian buildings including 12 buildings destroyed and 6 buildings damaged. The industrial complex on the west side of the river has sustained 18.0% damage including 4 buildings with superficial roof damage. Figure No. 9.
- g. Xom Ca Trang Area (WE807805). An analysis of pre strike photography reveals no civilian housing or civilian related activity within a nautical mile radius of the Xom Ca Trang Bridge.

The above percentages and total number of buildings destroyed or damaged are subject to revision when additional photographic coverage is made available.

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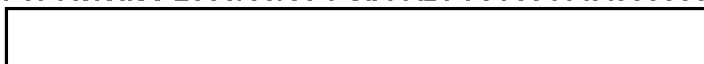
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Personnel trenches were observed in Nam Dinh and Phu Qui; however, it could not be determined if they were used for training or for civilian defense. In Yen Bai an extensive personnel trench system was being constructed; however, Yen Bai was bombed before the system was partially complete.

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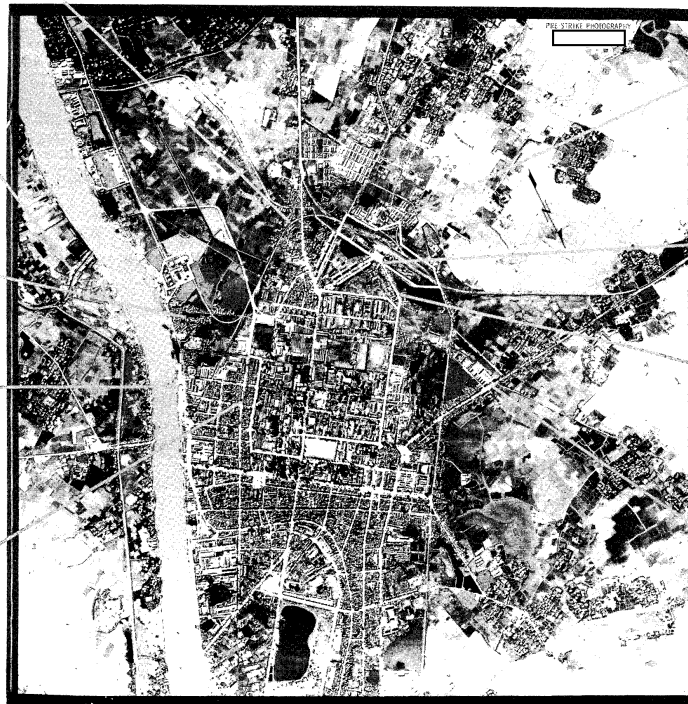
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NAM DINH COMPLEX NORTH VIETNAM

20 25 30 N 106 11 00 E

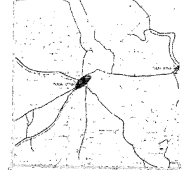
XH230590

DAMAGE TO CIVILIAN AREAS



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25X1 SHADING INDICATES ACCUMULATIVE DAMAGE

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# YEN BAI COMPLEX NORTH VIETNAM

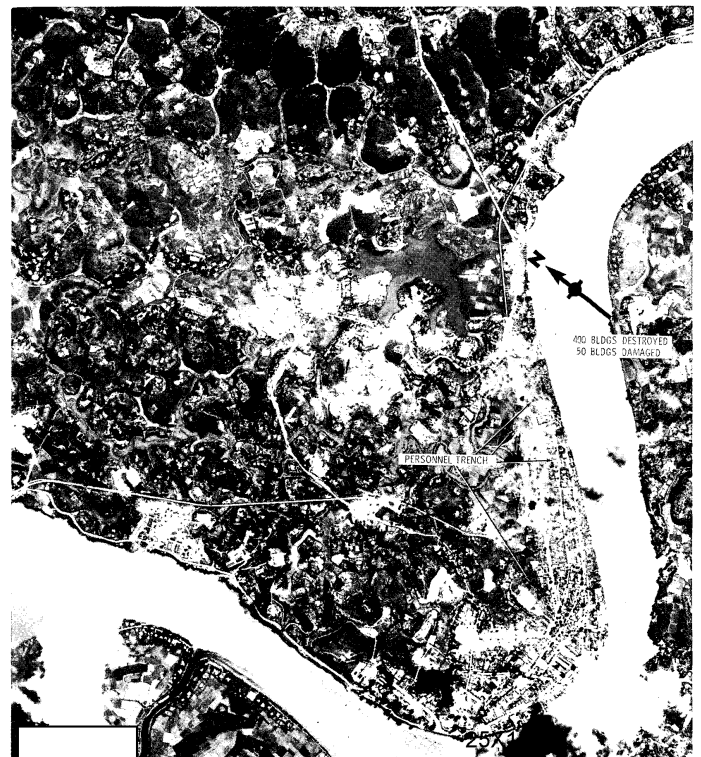
21 42 15 N 104 53 04 E  
VJ880990

## DAMAGE TO CIVILIAN AREAS

PRE-STRIKE



POST-STRIKE



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19 50 12N 105 47 56E

WG836934

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DAMAGE TO CIVILIAN AREAS

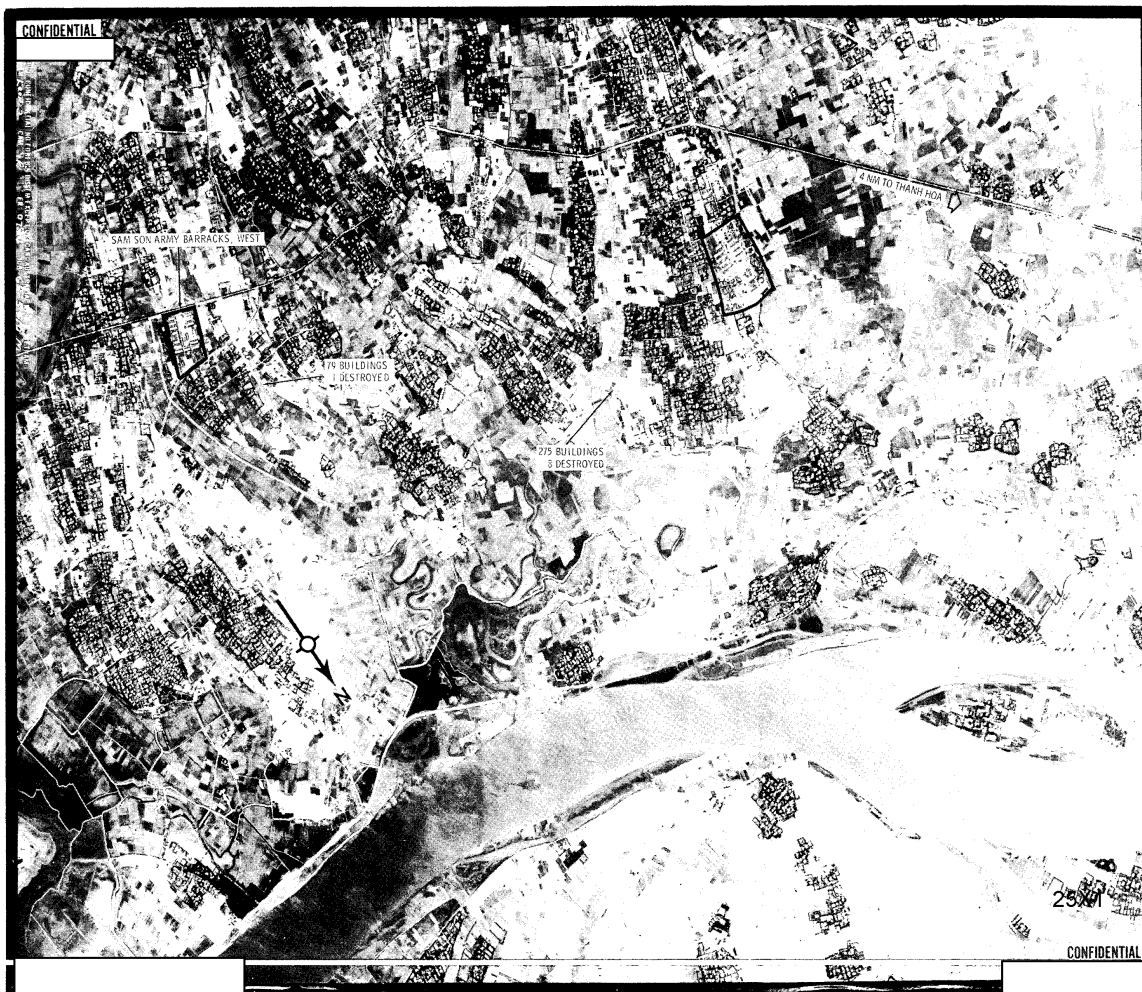
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# THANH HOA ARMY BARRACKS SOUTHEAST

19 45 30N 105 51 00E

WG886846

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## DAMAGE TO CIVILIAN AREAS

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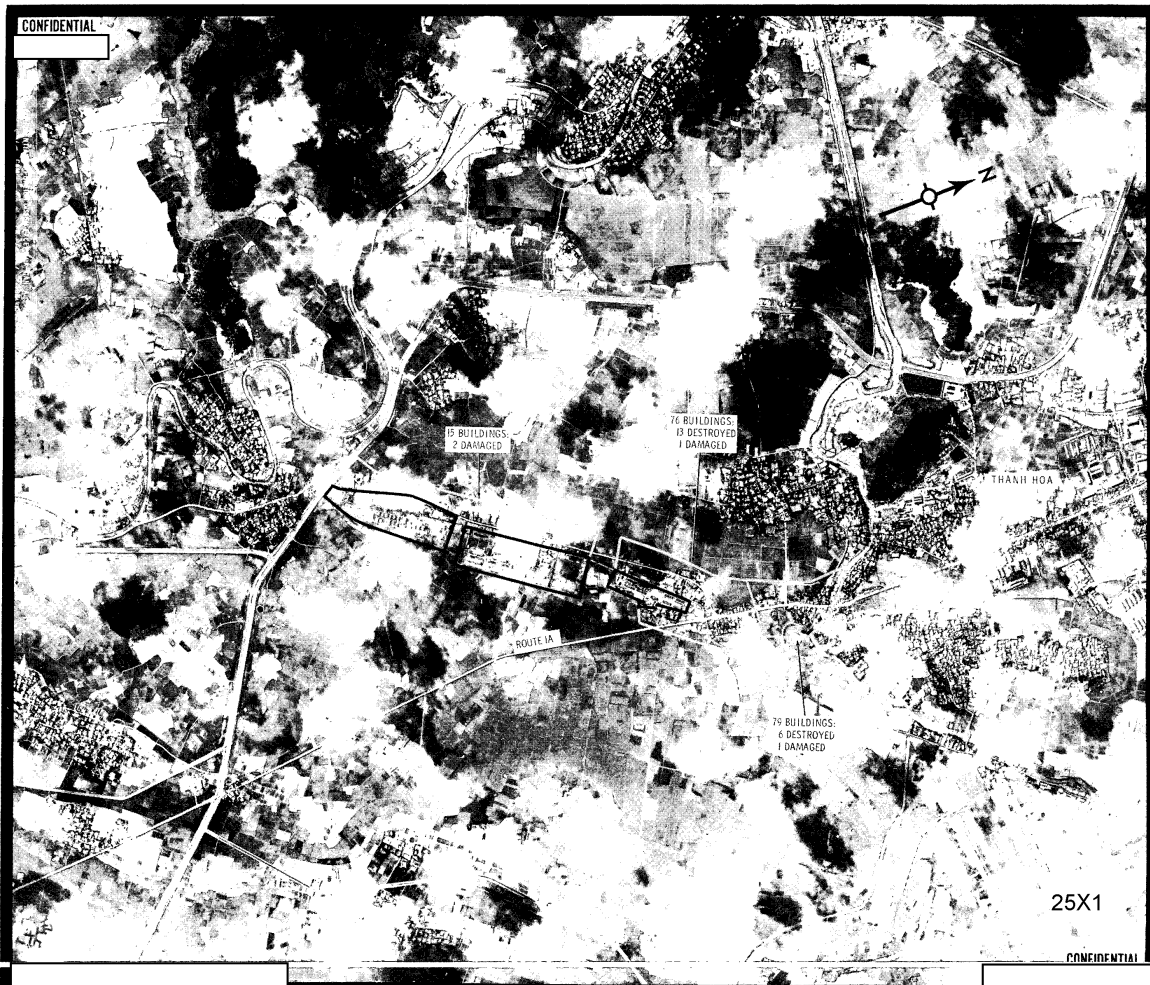
FIGURE # 4

THANH HOA ARMY BARRACKS SOUTH

19 46 21N 105 46 35E

WG812865

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DAMAGE TO CIVILIAN AREAS

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FIGURE # 5

**PHU QUI VILLAGE**  
**19 18 30 N 105 25 00 E**  
**WG455350**



**DAMAGE TO CIVILIAN AREAS**

POST STRIKE PHOTOGRAPHY

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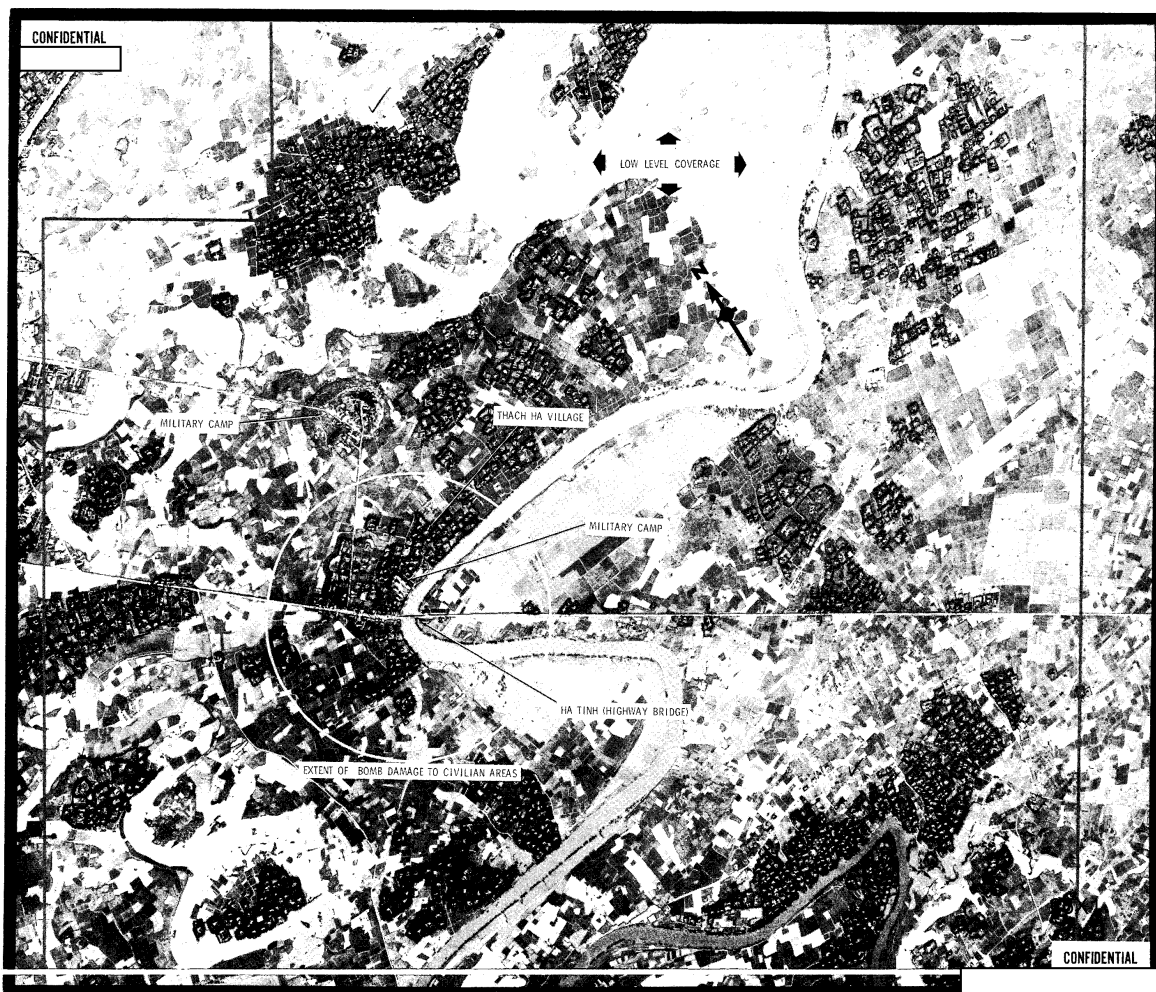
# HA TINH HIGHWAY BRIDGE

18 19 07 N 105 50 00 E

WF-970255

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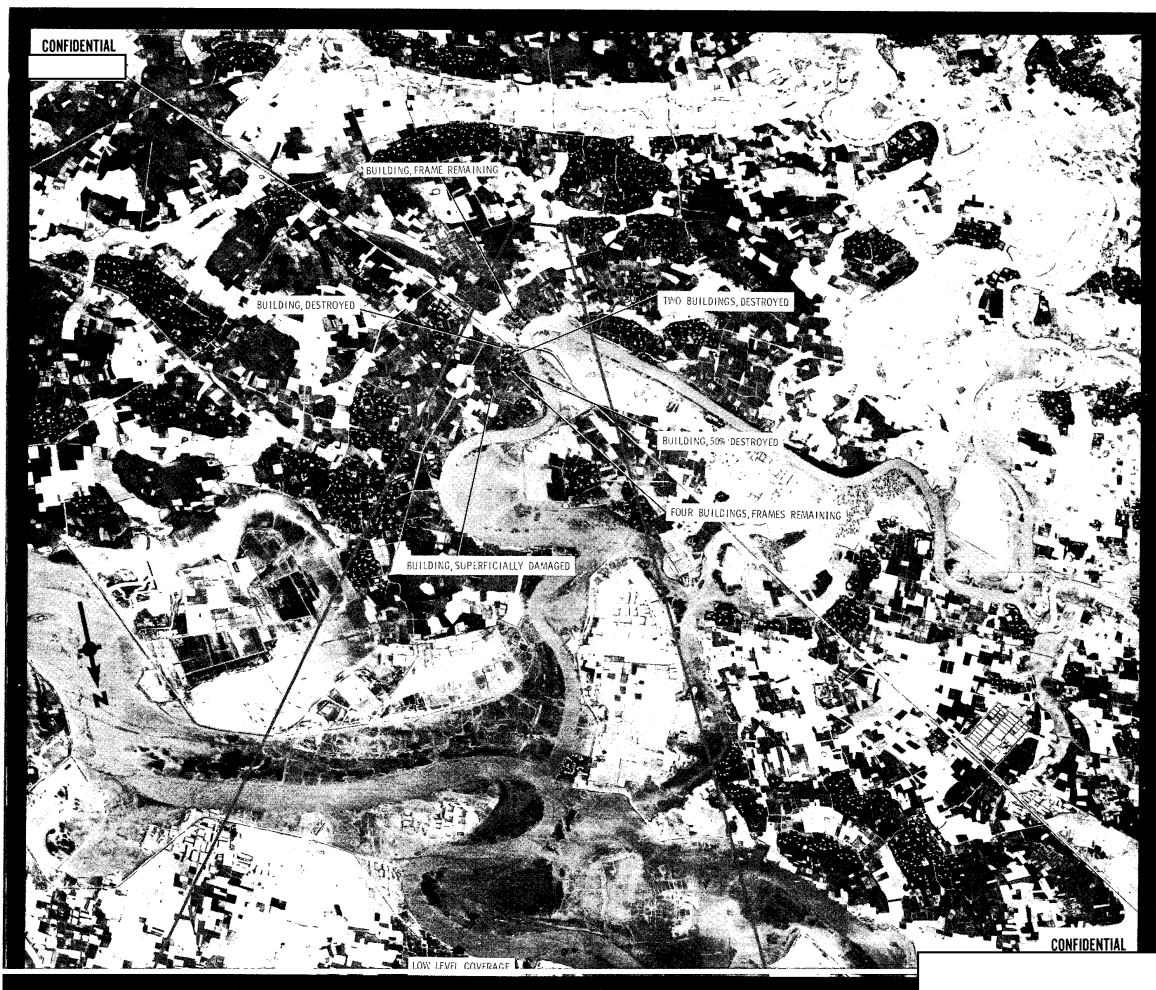
## DAMAGE TO CIVILIAN AREAS

## XOM GIA HIGHWAY BRIDGE

18 25 02 N 105 48 30 E

WF 853364

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## DAMAGE TO CIVILIAN AREAS



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# XOM THAI XA HIGHWAY BRIDGE

18-40 N 105-36 E  
WF 648645

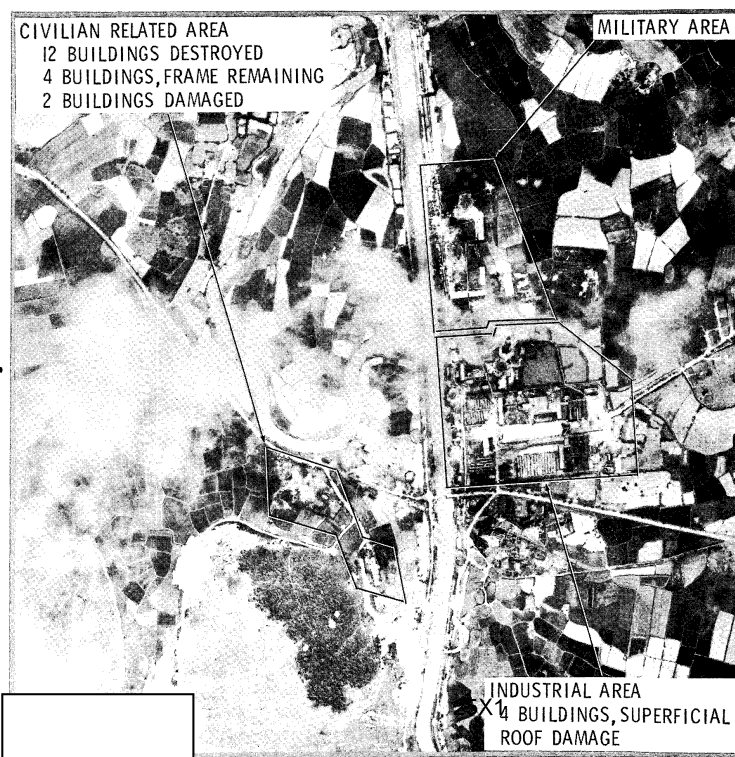
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## DAMAGE TO CIVILIAN AREAS



PRE-STRIKE



POST-STRIKE

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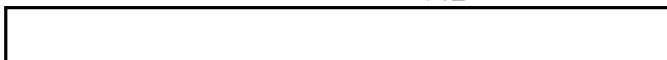
REQUIREMENT

C-RR5-83,100

CIA/IAD PROJECT

30494-6

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